Standardized work: sequence, takt and standard WIP

Read a standardized-work route with its takt, sequence and standard in-process stock, then identify what must change when the physical route or stock position changes.

The route is more than four instructions

Fictional bench case: operator Mara collects a verified kit, performs the task, checks output and hands off before returning to the kit point. The supplied teaching layout has takt 80 seconds per required unit and two standard in-process units: one at Work and one at Handoff. No observed cycle time is supplied.

Your role and the reference condition

Operator and team leader reviewing the current method together.
Normal: The displayed chart matches the agreed route, material positions, quality checks and operating basis.
Gap: A replacement poster lists the four verbs but omits the return route and stock locations.

Work within these conditions

1. Two units and the layout are illustrative settings, not validated operating requirements.

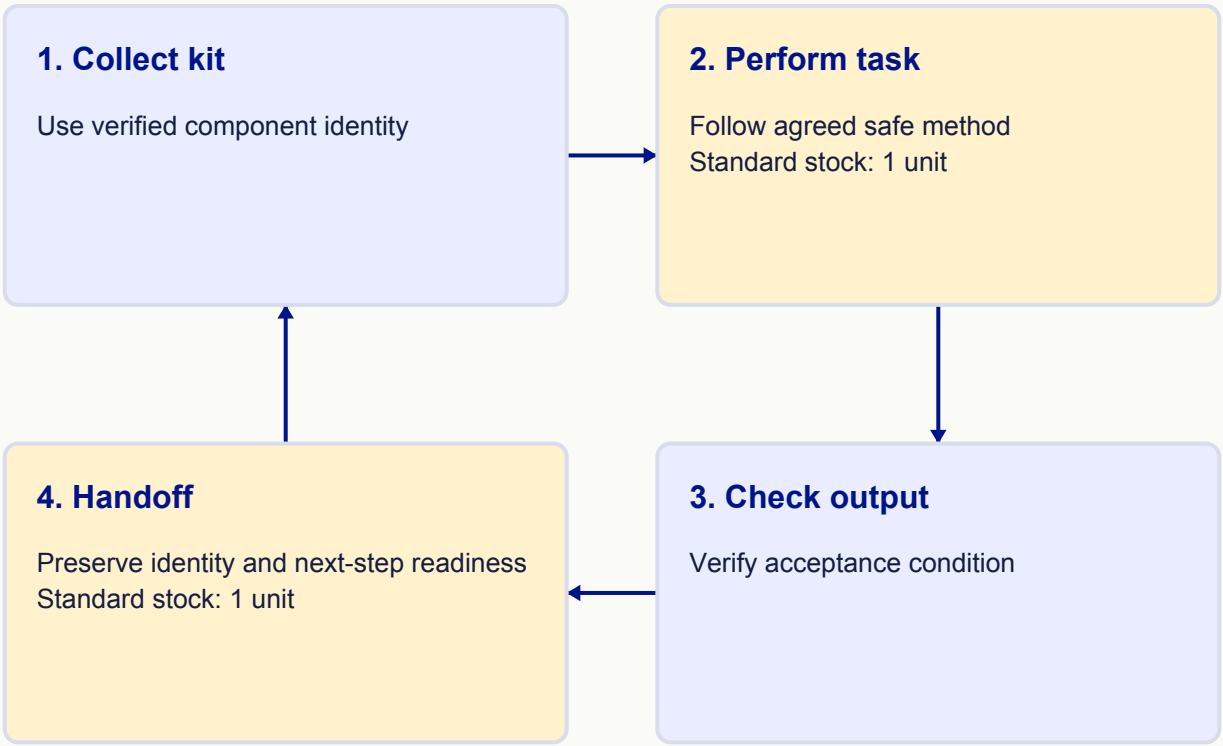
2. A posted chart does not replace approved quality, safety or training instructions.

Fictional teaching case. Supplied observations support the exercise; proposed actions are not verified customer results.

See how the method works

A production standardized-work chart combines the demand reference, operator sequence and required in-process stock on the physical layout. It makes the agreed method visible where work occurs. Observe the current method first, agree a safe sequence with the team and mark the inventory needed for the cycle to function. Then trial the arrangement and revise the chart when learning changes the method. A written instruction can explain an operation in detail but may omit these relationships. The chart is an improvement baseline, not evidence that variation has vanished or that faster work is automatically safe.

Takt reference 80 s | standard WIP 2 units



Arrows show the operator route, including return from handoff to kit. Positions are schematic, not a measured floor plan.

Two-unit stock and layout are fictional teaching settings; task/capacity feasibility is not validated.

The workplace route connects kit, work, check and handoff positions, including the return path. Declared stock positions and timing fields remain visible.

Follow the evidence and decisions

Inspect the supplied case inputs

Chart element	Teaching setting
1. Collect kit	Upper-left position; verify identity
2. Perform task	Upper-right; 1 in-process unit
3. Check output	Lower-right; defined acceptance check
4. Handoff	Lower-left; 1 in-process unit
Return	Handoff > Collect kit
Timing basis	Takt 80 sec/unit; cycle not measured

01 / Orient the reader in the workplace

Mara locates each of the four positions on the plan view and draws the operator's route in order, including the return to the start. She distinguishes movement from the material's processing status.

Why: An ordered list alone does not reveal travel, crossing or the relationship of stock to the operator.

Evidence / check: Route: Collect > Work > Check > Handoff > Collect.

02 / Attach the required operating basis

Record 80-second takt as the demand reference and leave actual cycle time unmeasured until observation. Show one standard unit at Work and one at Handoff.

Why: The chart combines timing reference, work sequence and the stock needed for its stated method. It must not report a target as an observed cycle.

Evidence / check: Two marked stock locations total two units; timing fields remain distinct.

03 / Retain the acceptance and exception points

Mark where identity is checked, where output acceptance occurs and how an abnormal condition gets help. Reference the controlled work instruction for detailed criteria.

Why: A route can appear shorter after a check is omitted, but that changes the required work. The chart should expose checks rather than hide them in a caption.

Evidence / check: Check output remains before Handoff; unverified output has no ordinary handoff event.

04 / Compare the drawing with one actual cycle

Observe the agreed method with the operator under local rules. Record any extra reach, waiting, travel or stock needed to sustain it; do not alter the workplace solely to match the poster.

Why: The chart is a baseline for learning. A mismatch is evidence to investigate with the person doing the work.

Evidence / check: Observation sheet records discrepancies and their operating condition; no achieved cycle value is invented.

05 / Control the revision and teaching

If a trial changes a location or sequence, revise the chart, timing evidence and affected instruction together. Coach the new method and verify understanding before retiring the old version.

Why: An attractive new drawing cannot establish competence or prove the layout feasible.

Evidence / check: Revision owner, effective condition and observed operator demonstration are recorded.

Completed chart audit

Required item	Included value	Audit result
Takt	80 sec/unit	Planning reference
Cycle	Not measured	Observation required
Sequence	1 > 2 > 3 > 4 > 1	Return route retained
Standard stock	Work 1; Handoff 1	Total 2 units
Quality	Check before handoff	Acceptance criteria referenced

Handoff is moved behind the bench

A proposal moves Handoff to a new position and adds a return walk not shown on the original chart.

Decision

Mark the proposed route separately, observe the added movement and reassess timing, access and stock.

Reasoning

The old chart's arrows and assumptions no longer represent the proposed method, even though the four step names are unchanged.

What would change the decision?

Before/proposed drawings and measured route evidence accompany the review.

Practise with a changed case

Audit a chart for another cell

Separate fictional cell specifies takt 75 seconds and three standard units: two at the machine and one at the exit position. Its draft chart shows two units in total, reports cycle as 75 without observations, and omits return travel.

Requirement	Draft problem
Stock	Machine 2 + exit 1; drawing shows 2 total
Takt	75 sec/unit
Cycle	Copied as 75; no measurement
Movement	Return path absent

Your task

1. Correct the stock count and timing labels.
2. List the missing route and operating evidence.
3. Explain what must happen before the revised drawing becomes the taught method.

Use the next page to record your reasoning before reading the answer.

Your practice worksheet

Audit a chart for another cell

Stock by location / total

Takt versus measured cycle

Complete operator route

Required checks and response

Revision and demonstration evidence

Complete your reasoning before turning to the answer. Use the separate learner workbook for group practice.

Check your reasoning and transfer it

1. The stated stock is three units, not two: machine 2 plus exit 1.

2. Takt remains 75 sec/unit, while actual cycle is unmeasured. Add the return route as observed rather than inventing its duration.

3. The owner must check feasibility, coordinate controlled instructions and verify the operator's demonstrated method before adoption.

Suggested completed record

Field	Evidence	Correction
Stock	2 + 1	3 units
Takt / cycle	75 sec/unit / unknown	Do not equate them
Return	Absent	Observe and draw
Revision	Not yet validated	Trial and teach

Plausible wrong turns

1. A list of steps is not the full route chart.

2. Standard in-process stock is not all inventory in the building.

Evidence of a sound answer

1. Reconcile stock locations to the total.

2. Preserve unknown measurements honestly.

3. Connect document revision to observed work and training.

Take the learning back to work

Commitment	Agreed follow-through
Owner	Process owner and trained operator representative
Record	Current/proposed chart, observed route and revision/training evidence
Review	During the method trial and at the agreed standard-work review
Verification evidence	Complete route, accurate stock positions and demonstrated acceptance/response steps
If unresolved	Investigate the mismatch; do not demand compliance with a drawing that has not been shown feasible.

Help someone else apply the method

Prepare

1. Plan-view sheet and movable station/stock symbols
2. Separate quality-check and return-arrow symbols

Minutes	Activity and coaching prompt
4	Walk the drawing with a finger Where does the operator return after handoff?
8	Audit stock and clocks Which value is a requirement and which is missing observation?
8	Repair the second-cell draft What can you correct without inventing a time?
5	Plan a controlled revision How will you know the drawing matches the taught work?

Debrief

1. Ask why two stock symbols cannot stand for three units without an explicit legend.
2. Retain the check step when participants seek a shorter route.

Individual or remote practice

Trace a full cycle, then reconcile each stock symbol and timing field with the stated setting.

Connect the method and check its boundaries

Before application

1. Stable safe method
2. Defined demand

Outside this lesson

1. An SOP alone is not this chart
2. A standard is a baseline for improvement

LEI: Standardized Work

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Takt, sequence, standard WIP; chart and combination table have distinct purposes

Method reference; original OPEX scenario and diagram are synthetic teaching content, not source case results.

Open this lesson and its visual aids